

1. (As Amended) A method of optically interlocking a plug and receptacle combination, such method comprising the steps of:

disposing an optical source and receiver in a first sidewall of the receptacle with an axis of transmission from the optical source to the receiver directed into and across a plug space of the receptacle substantially perpendicular to an axis of insertion of the plug so that an optical signal from the optical source is reflected back to the receiver from a second, opposing sidewall; and

activating the optical interlock when an optical signal from the optical source is detected by the optical receiver.

2. (Original) The method of optically interlocking a plug and receptacle combination as in claim 1 further comprising defining the optical source as a light emitting diode.

3. (Original) The method of optically interlocking a plug and receptacle combination as in claim 2 further comprising defining the optical receiver as a photodiode.

4. (Original) The method of optically interlocking a plug and receptacle combination as in claim 3 further comprising disposing the receptacle on a printed circuit board wherein the printed circuit board forms a sidewall surface of the receptacle.

5. (Original) The method of optically interlocking a plug and receptacle combination as in claim 4 further comprising defining the optical interlock as the combination of a controller and optical transmitter disconnect.

6. (Original) The method of optically interlocking a plug and receptacle combination as in claim 5 further comprising defining the plug as an optical connector for holding a plurality of optical fibers and aligning the plurality of optical fibers to an optical transmitter.

7. (Original) The method of optically interlocking a plug and receptacle combination as in claim 6 further comprising interrupting the optical signal to the photodiode with the optical connector.

8. (Original) The method of optically interlocking a plug and receptacle combination as in claim 7 wherein the step of activating the optical interlock further comprises reflecting the optical signal off a reflective surface of the receptacle and directing the optical signal to the photodiode.

9. (As Amended) An apparatus for optically interlocking a plug and receptacle combination, such apparatus comprising:
the plug and receptacle; and

an optical source and receiver disposed in a first sidewall of the receptacle with an axis of transmission from the optical source to the receiver directed into and across a plug space of the receptacle substantially perpendicular to an axis of insertion of the plug so that an optical signal from the optical source is reflected back to the receiver from a second, opposing sidewall in the absence of the plug.

10. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claim 9 wherein the optical source is further defined as a light emitting diode.

11. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claim 10 wherein the optical receiver is further defined as a photodiode.

12. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claim 11 further comprising the receptacle disposed on a printed circuit board wherein the printed circuit board forms a sidewall of the receptacle.

13. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claim 12 wherein the optical interlock is further defined as a combination of a controller and optical transmitter disconnect.

14. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claim 13 wherein the plug is further defined as a optical connector for holding a plurality of optical fibers.

15. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claims 14 wherein the optical connector when inserted in the receptacle interrupts the optical signal to the photodiode.

16. (Original) The apparatus for optically interlocking a plug and receptacle combination as in claim 15 further comprising a reflective surface of the receptacle for reflecting and directing the optical signal to the photodiode.